Showtime East Digital
IRD Rollout DSR 4410
Installation Instructions

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1. Introduction

Motorola has begun the IRD Rollout project for the Showtime East feed. This shipment includes one Motorola DSR-4410 Integrated Receiver Decoder (IRD), which is compatible with the Showtime East digital conversion, dependent upon your Showtime contractual agreement. This installation guide will provide you with an understanding of how to physically install, configure and activate this IRD for the digital conversion.

NOTE: Showtime Networks will begin service interruptions on The Movie Channel East analog service March 5, 2007. Service interruptions may be in the form of a banner scrolling across the screen and/or loss of video. These service interruptions may continue and grow in frequency until the Analog service, located on Satellite Galaxy 14, Transponder 24, has been discontinued. To avoid a service interruption please have your DSR-4410 installed and authorized before February 26, 2007.

2. DSR-4410 Integrated Receiver Decoder

Showtime and Motorola have set up a toll-free number to help with your request, installation, authorization, and technical assistance. Once you receive your new IRD, technical questions concerning installation or operation should be directed to Motorola at 1-866-276-4327.

Technical information found in this installation guide can also be found in Motorola's, "DSR-4410 DigiCipher II Commercial Integrated Receiver Decoder Operator Guide."

2.1 DSR-4410 Front Panel

Figure 1: DSR-4410 Front Panel

- PORT 0 LED
- PORT 1 LED
- RELAY LED
- ALARM LED
- LCD Front Panel Display
- AUTHORIZED LED
- BYPASS LED
- SIGNAL LED
- DOWNLOAD LED
- Keypad with directional and ENTER buttons

2.2 DSR-4410 Rear Panel

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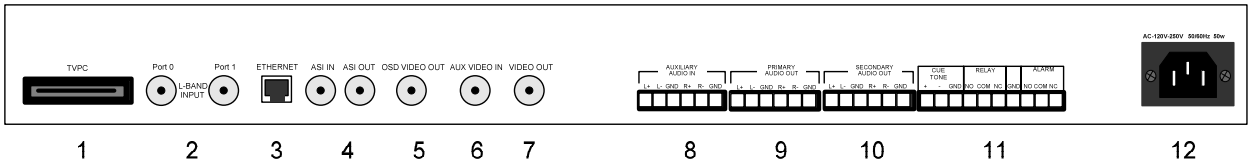

1 - TVPass Card
2 - RF Input Ports
3 - Ethernet Port
4 - ASI Input/Output Ports
5 - OSD Video Output
6 - Aux Video Input
7 - Video Output
8 - Auxiliary Audio Input
9 - Primary Audio Output
10 - Secondary Audio Output
11 - Cue Tone/Relay/Alarm
12 - AC Power Connector

Figure 2: DSR-4410 Rear Panel

3. Installation Information

- Follow steps 1 through 32 to complete the DSR-4410 installation and authorization.
- For questions regarding the Showtime East IRD installation or DSR-4410 IRD, please contact Motorola at **1-866-276-4327.**

3.1 Physical Installation

1. Install the receiver in a 19-inch universal rack and connect the power cord to an available AC outlet.

2. Apply AC power to the unit. All LED's on the DSR will go through a self-test and the LCD will temporarily display "MOTOROLA DSR4410" and the firmware version. Once the unit has completed the power up sequence, it will display the Main Menu as shown below:

DSR4410				
◄ ►E	→Install	→Channel	→Status	→Diag

- When the unit has power, the front panel Liquid Crystal Display (LCD) will display characters, and at least one Light Emitting Diode (LED) should be lit. If the LCD backlight is not on, press any front panel directional button (◄ ► ▲ ▼ Enter) to light.
- If the unit fails to power up properly contact Motorola at **1-866-276-4327.**

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3.2 Connecting the Satellite Feed

The DSR-4410 provides power on the L-Band (RF) inputs for an LNB. Use an inline (barrel) DC block or DC block splitter connection to prevent conflict with the LNB voltage that may already be present in the system. If you do not use a DC Block, the following may occur after you apply power and connect the satellite feed:

- The front panel controls do not work
- You cannot navigate through the menus
- All front panel lights are off.

3. For a single polarity L-Band satellite connection, connect the coax from the LNB (vertical) to Port 0 on the rear panel of DSR-4410. It is a good practice to record and label which port(s) and polarities are connected to the LNB. Labeling the coax at the rear panel is also a good practice.

3.3 Connecting Video and Audio Outputs

4. To view video and On-Screen Diagnostics during installation, connect the OSD Video Output on the unit to a 75 Ohm video monitor. After the unit is authorized and outputting the desired service, reconnect the Video Output to the channel modulator.

5. To listen to audio during installation, connect the audio outputs to a local amplifier and speaker. A standard stereo system will suffice, but the lack of differential audio inputs may make the audio seem degraded. After the unit is authorized and outputting the desired service, reconnect these outputs to the channel modulator. Since these are differential pairs, it is recommended to use two pair of shielded audio cables rather than the single wire and shield type. For best quality audio, please take care to ground the shield on both the IRD GND terminal and at the channel modulator end.

   For services transmitted in stereo and used in your plant as stereo, connect the Left Audio Out terminals (L+ and L-) to the left audio inputs on the channel modulator, and connect the Right Audio out terminals (R+ and R-) to the right audio inputs on the channel modulator. For services transmitted as a single mono, connect the Left Audio out terminals (L+ and L-) to the audio inputs on the channel modulator. Right Audio out terminals (R+ and R-) will also contain the single mono.

3.4 Satellite and Channel Information Chart

The Satellite and Channel Information Chart below, Figure 3, provides detailed information for the digital Showtime East IRD Roll-out multiplex. This information is required to properly configure the DSR-4410 IRD.

Network	Satellite Transponder L-Band Freq. Polarization	Satellite Orbital Location	Symbol Rate FEC Rate Transmission System	Virtual Channel Table	Virtual Channel	MPEG Service Number	Video	Audio 1 Audio 2 Audio 3
Showtime East	AMC 11 Transponder 19 1075 MHz Vertical	131 Degrees W. Longitude	19.51 Mb/s ¾ Combined	0183	100	1	NTSC	N/A

Figure 3: Satellite and Channel Information Chart

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Please note that the **digital carrier is on** AMC 11, Transponder 19, a **different satellite and transponder** than the current analog signal.

3.5 Tuning Satellite Feed

6. From the Main Menu use the ◄►to select **Install**, press **ENTER.**
7. Use the ▼▲ buttons to select the **MANUAL TUNE** menu
8. From **MANUAL TUNE** menu, verify **Input** = **Port 0** and **Mode** = **Xpndr**
9. Use the ◄► buttons to select **Xpndr,** press **ENTER.**
10. Use the ▲▼ buttons to change the transponder to **19,** press **ENTER** to save.
11. From the **MANUAL TUNE** menu verify the **L-Freq** = 1075.00 MHz (Xpndr19)
12. Use the ◄► buttons to move the cursor to M**ANUAL TUNE**.
13. Use the ▼button to move the cursor to the **MODULATION**.
14. Use the ◄► buttons to select Mode, press **ENTER**.
15. Use the ▲▼ buttons to select **DCII-MAN**, press **ENTER**.
16. Use the ► button to select **Symbol Code Format**, press **ENTER**.
17. From the Modulation Menu Press the ► twice to highlight **Symbol 19.51,** press **ENTER.**
18. Use the ▼▲ buttons to select ¾ **combined**, press **ENTER** to save.
19. Press ►to move the cursor to **MODULATION**.
20. Press **ENTER** to display the Main Menu.
21. Wait for the **SIGNAL** green LED to illuminate. This can take up to 2 minutes. Do not proceed to the next step if the **SIGNAL** LED does not come on; proceed to Basic Troubleshooting Tips for No Signal lock in Section 4.

3.6 Configuring Channel Parameters

Before viewing video and audio on the DSR-4410 IRD, the operator must select the correct Virtual Channel Table (VCT) ID and Channel number. In addition the IRD must be authorized for the intended service. Follow the steps below to enter the correct VCT ID and Channel number.

22. From the Main Menu use the ◄►button to select **Channel,** press **ENTER**.
23. Use the ► button to move the cursor to **VCT,** press **ENTER.**
24. Use the ▼▲◄► buttons to change the **VCT** number to 0183, press **ENTER** to save.
25. Use the ► button to move the cursor to **Chnl,** press **ENTER**.
26. Use the ▼▲◄► buttons to change the channel number to 0400, ***press*** **ENTER** to save**.**
27. Use the ◄►button to move the cursor to **CHANNEL,** Press **ENTER** to return to the Main Menu.
28. If you receive an error when selecting the channel contact Motorola at **1-866-276-4327.**

3.7 CUE Tones

The DSR-4410 will be able to generate cue tones when commanded over the satellite link. If these internally generated cue tones are used, connect the 600 Ohm differential Cue Tone+ and Cue Tone- terminals on the DSR-4410 to the device that will be accepting the tones. The cautions on cable and grounding noted in the audio instructions above also apply to cue tones.

Note: Showtime East feed runs commercial free. Please proceed to section 3.8.

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3.8 Retrieving Unit Address

The Unit Address can be obtained from a sticker on the bottom of unit, on the outside of the shipping carton, or from the front panel display. In addition, the Unit address can be retrieved through the IRD menus.

29. From main menu use the ◄► to highlight **Diagnostics,** press **ENTER** then use ▼ button to view the Unit Address.
30. Provide Unit Address to Motorola for Authorization.
31. Once the unit is authorized, the **AUTHORIZED** LED should illuminate.

3.9 Calling for IRD Authorization

Motorola will administer network authorizations for your IRD Monday through Friday 8 AM to 8PM EST.

32. For authorization have your old VideoCipher Unit Address(s), new DigiCipher Unit Address(s), user name and password (contained in affiliate letter mailed to you) and contact Motorola via toll free, **1-866-276-4327**. A Motorola IRD Specialist will authorize your new DigiCipher Unit Address. Showtime will de-authorize your old VideoCipher, 5 business days after initial authorization of your new DigiCipher unit. **If you need to have the analog feed on longer, please let the IRD Rollout Center Representative know.**

4. Basic Troubleshooting tips for no DigiCipher/Signal lock

- Confirm the correct signal cable (AMC 11 Vertical) is connected to the L-Band input Port 0.
- In the Installation>Modulation menu, verify Mode = DCII-MAN, Symbol=19.51, Code=3/4, and Format=combined.
- Verify Input Port 0 and L-Band Freq 1075 MHz is selected in the Installation>Manual Tune menu.
- For additional help contact Motorola at **1-866-276-4327.**

5. Warranty Information

Motorola's Defect Return Policy requires that Motorola verify that the equipment is defective. Motorola Standard Warranty is that if a DSR-4410 (shipped for this project) is found to be defective within 45 days from when the unit was shipped out of the Motorola facility and needs to be replaced, Motorola will supply shipping for the new and return of the defective unit free of charge. Prior to the Showtime signal interruption, the new unit will not be shipped until the defective unit has been returned to Motorola. This includes the customer sending the unit in for repair.

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